

TOSHIBA Diodes for Protecting Against ESD Epitaxial Planar Type

DF5A12FU

Unit in mm

Product for Use Only as Protection against Electrostatic Discharge (ESD).

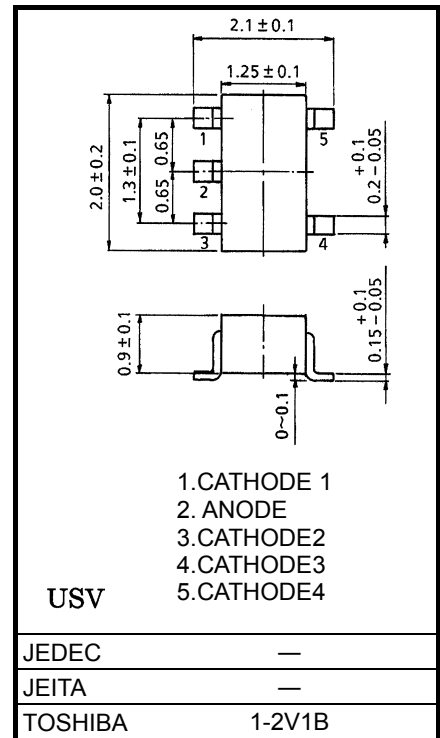
*This product is for protection against electrostatic discharge (ESD) only and is not intended for any other usage, including without limitation, the constant voltage diode application.

- The mounting of four devices on an ultra-compact package allows the number of parts and the mounting cost to be reduced.

Absolute Maximum Ratings (Ta = 25°C)

Characteristic	Symbol	Rating	Unit
Power dissipation	P	200*	mW
Junction temperature	T _j	150	°C
Storage temperature range	T _{stg}	-55 to 150	°C

*: Mounted on a glass epoxy circuit board of 20 mm × 20 mm, pad dimension of 4 mm × 4 mm.



Weight: 6.2 mg (typ.)

Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) are within the absolute maximum ratings. Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/"Derating Concept and Methods") and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

Electrical Characteristics (Ta = 25°C)

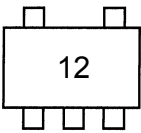
Characteristic	Symbol	Test Circuit	Test Condition	Min	Typ.	Max	Unit
Zener voltage	V _Z	—	I _Z = 5 mA	11.4	12.0	12.7	V
Dynamic impedance	Z _Z	—	I _Z = 5 mA	—	—	30	Ω
Reverse current	I _R	—	V _R = 9 V	—	—	0.05	μA
Total capacitance	C _T	—	V _R = 0 V, f = 1 MHz	—	26	—	pF

Guaranteed Level of ESD Immunity

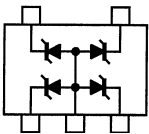
Test Condition	ESD Immunity Level
IEC61000-4-2 (Contact discharge)	±20 kV

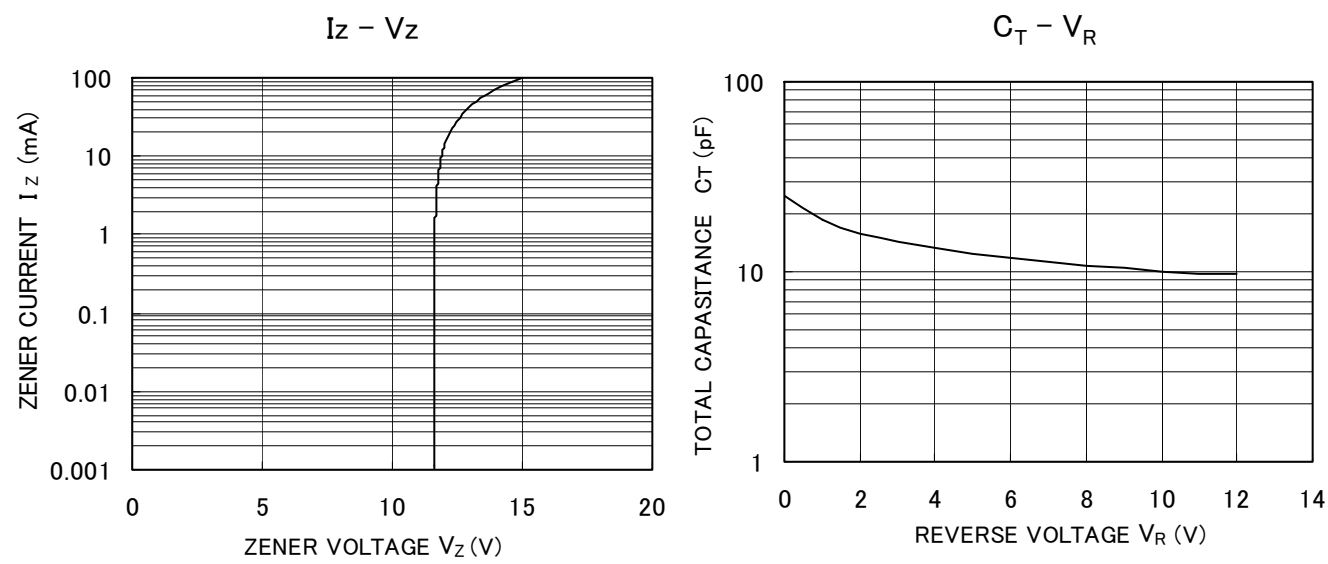
Judgment contents: No element destruction

Marking



Equivalent Circuit (Top View)





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